APPENDIX A – LAYOUT DRAWINGS

	Footway	Cycle Track	Traffic Lane	Traffic Lane	Cycle Track	Footway

Diag 1057

Diag 955

KERB SEGREGATOR

Diag 955 and Diag 1057 to be located at start of cycle track and at intervals along the route as required.
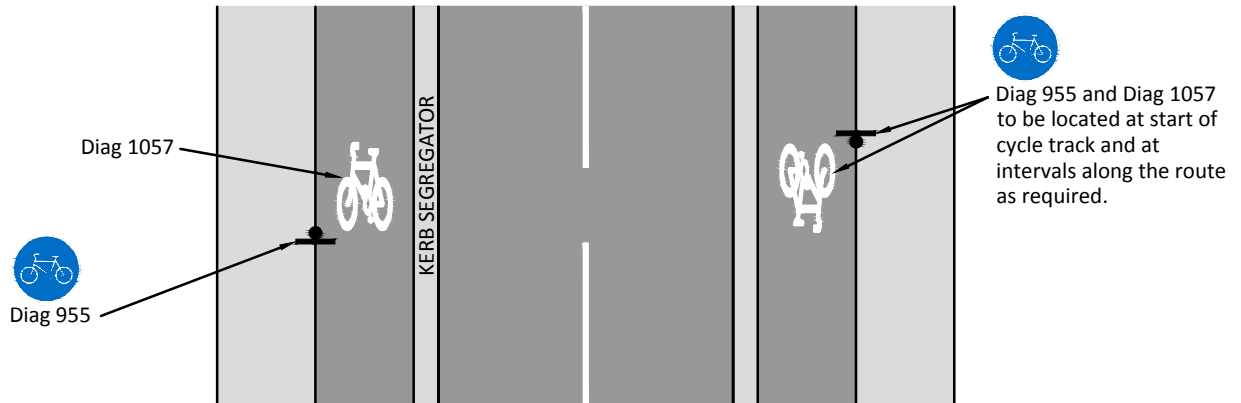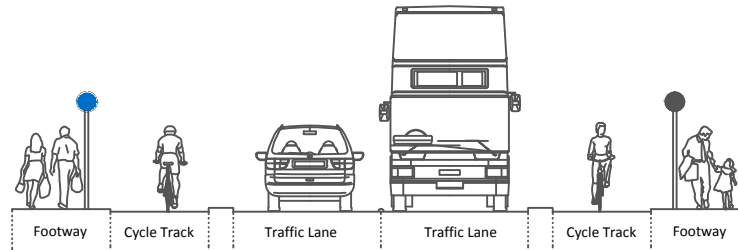
	Footway	Cycle Track	Segregator	Traffic Lane	Traffic Lane	Segregator	Cycle Track	Footway
Target	>2.0m	>2.0m	> 0.5m(5)	3.5m	3.5m	> 0.5m(5)	2.5m	>2.0m
Absolute Minimum	1.8m(2)	1.5m(3)		3.0m(4)	3.0m(4)		1.5m(3)	1.8m(2)

(1) Effective width subject to pedestrian flow.
(2) Localised narrowing of footway due to street furniture permitted.
(3) Absolute minimum cycle track width only permitted for low cycle demand (<100/day) over distances < 100m, not on gradients > 7%.
(4) Absolute minimum traffic lane 3.25 bus or HGV route. 3.0m within 30mph
(5) Desirable and absolute minimum to be 0.5m.

Advantages:
- High profile facility exclusively for cycles
- Provides positive physical segregation from motorised traffic and pedestrians

Disadvantages:
- Has to revert to cycle lanes through junctions
- Sometimes complex solutions for bus stops and adjacent on-street parking or loading areas
- Requires wide highway
- High construction costs due to drainage issues

Key Criteria:

- Physical segregation between cyclists and both motorised vehicles and pedestrians.
- 24-hour operation
- No loading and no parking
- Street furniture including lighting columns and signs and supporting structures to be located outside of cycle track
- Consistent quality is essential, no changes in track widths, no "gaps"
- No coloured surfacing
- Smooth, flat, well-drained and well-maintained surface
- Not suitable where frequent side roads / driveway accesses intersect cycle track
- Gullies preferably located in kerb (or a continuous drainage system) and not in cycle track. Additional gullies may be needed to provide adequate carriageway drainage.

Typical Costs:

Work Zone Length	1000m
Lower Cost Estimate	£420,000
Upper Cost Estimate	£1,300,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
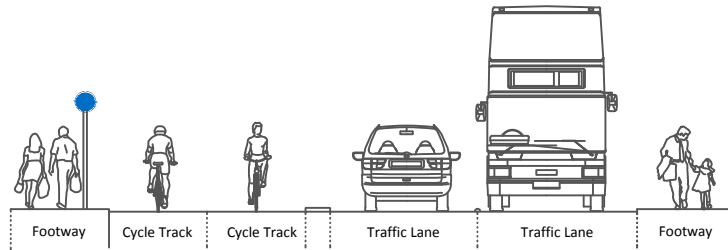- Cost estimate assume cycle facility provisions on both sides of the carriageway.
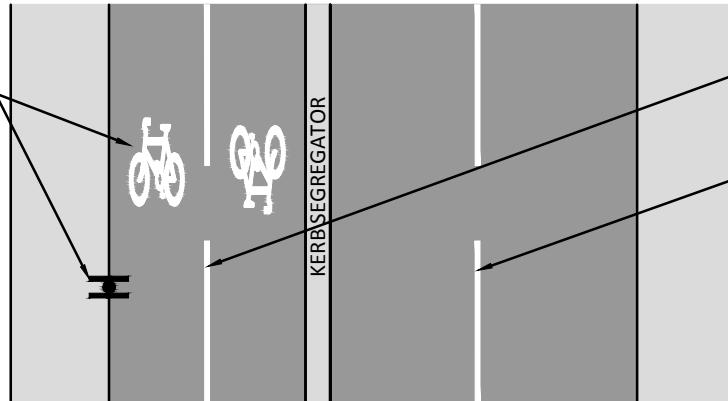
Drawing No:	L-CT-GE-01	Rev:
Lead Section:	LINKS	

	Title:
BIRMINGHAM CYCLE REVOLUTION	**TWO-WAY CYCLE TRACK**

Diag 955 mounted back to back and Diag 1057 to be located at start of cycle track and at intervals along the route as required .
Mount on other street furniture (E.g lighting column) where possible to reduce clutter.

KERB SEGREGATOR

Diag 1004
(to be omitted if cycle track < 3.0m)

Diag 1004

	Footway	Cycle Track	Cycle Track	Segregator	Traffic Lane	Traffic Lane	Footway
Target	>2.0m	4.0m			3.5m	3.5m	>2.0m
Absolute Minimum	1.8m(2)	2.5m(3)		> 0.5m(5)	3.0m(4)	3.0m(4)	1.8m(2)

(1) Effective width subject to pedestrian flow.
(2) Localised narrowing of footway due to street furniture permitted.
(3) Absolute minimum cycle track width for low cycle demand (<100/day) , only permitted over distances < 100m, not on gradients > 7%.
(4) Absolute minimum traffic lane 3.25 if bus route, HGV levels > 8% or speed limit > 30mph. 3.0m in 30mph areas.
(5) Desirable and absolute minimum to be 0.5m.

Advantages:
- High profile facility exclusively for cycles
- Provides positive physical segregation from motorised traffic and pedestrians

Disadvantages:
- Has to revert to cycle lanes through junctions
- Sometimes complex solutions for bus stops and adjacent on-street parking or loading areas
- Requires wide highway
- High construction costs due to drainage issues
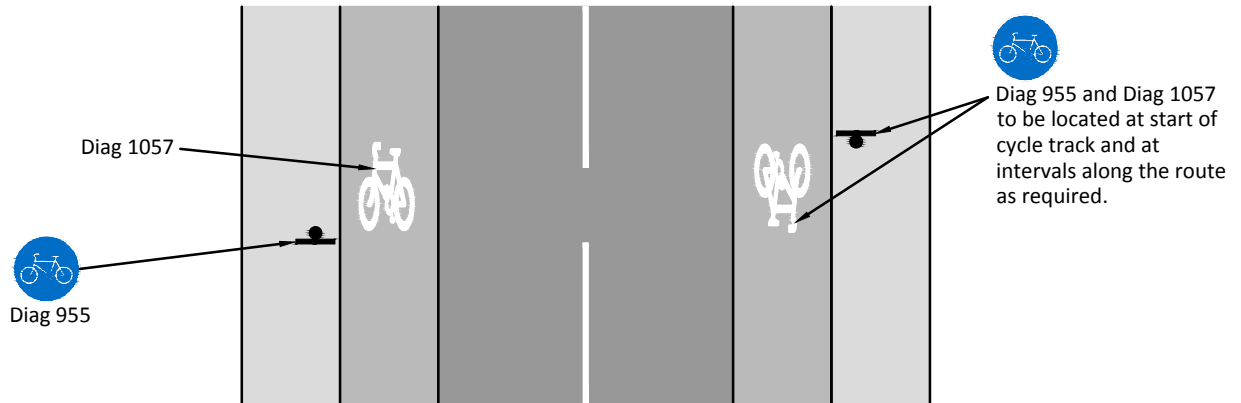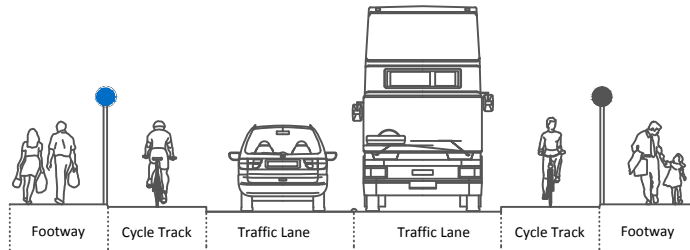
Key Criteria:

- Physical segregation between cyclists and both motorised vehicles and pedestrians.
- 24-hour operation
- No loading and no parking
- Street furniture including lighting columns and signs and supporting structures to be located outside of cycle track
- Consistent quality is essential, no changes in track widths, no "gaps"
- No coloured surfacing
- Smooth, flat, well-drained and well-maintained surface
- Not suitable where frequent side roads / driveway accesses intersect cycle track
- Gullies preferably located in kerb (or a continuous drainage system) and not in cycle track. Additional gullies may be needed to provide adequate carriageway drainage.

Typical Costs:

Work Zone Length	1000m
Lower Cost Estimate	£300,000
Upper Cost Estimate	£1,200,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on both sides of the carriageway.

Drawing No:	L-CT-GE-02	Rev:
Lead Section:	LINKS	

	Title:	
BIRMINGHAM CYCLE REVOLUTION		**HALF HEIGHT CYCLE TRACKS**

Footway | Cycle Track | Traffic Lane | Traffic Lane | Cycle Track | Footway

Diag 1057

Diag 955

Diag 955 and Diag 1057 to be located at start of cycle track and at intervals along the route as required.

	Footway	Cycle Track	Traffic Lane	Traffic Lane	Cycle Track	Footway
Target	>2.0m	2.5m	3.5m	3.5m	2.5m	>2.0m
Absolute Minimum	1.8m(2)	1.5m(3)	3.0m(4)	3.0m(4)	1.5m(3)	1.8m(2)

(1) Effective width subject to pedestrian flow.
(2) Localised narrowing of footway due to street furniture permitted.
(3) Absolute minimum cycle track width only permitted for low cycle demand (<100/day) over distances < 100m, not on gradients > 7%.
(4) Absolute minimum traffic lane 3.25m if bus route, HGV levels > 8% or speed limit > 30. 3.0m where no buses and few HGVs.

Advantages:
- High profile facility exclusively for cycles
- Provides positive physical segregation from motorised traffic and pedestrians

Disadvantages:
- Has to revert to cycle lanes through junctions
- Sometimes complex solutions for bus stops and adjacent on-street parking or loading areas
- Requires wide highway
- High construction costs
- No buffer zone between traffic and cycles

Key Criteria:

- Physical segregation (level difference) between cyclists and both motorised vehicles and pedestrians.
- 24-hour operation
- No loading and no parking
- Street furniture including lighting columns and signs and supporting structures to be located outside of cycle track
- Consistent quality is essential, no changes in track widths, no "gaps"
- No coloured surfacing
- Smooth, flat, well-drained and well-maintained surface
- Less appropriate where frequent side roads / driveway accesses intersect cycle track

Typical Costs:

Work Zone Length	1000m
Lower Cost Estimate	£500,000
Upper Cost Estimate	£1,900,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
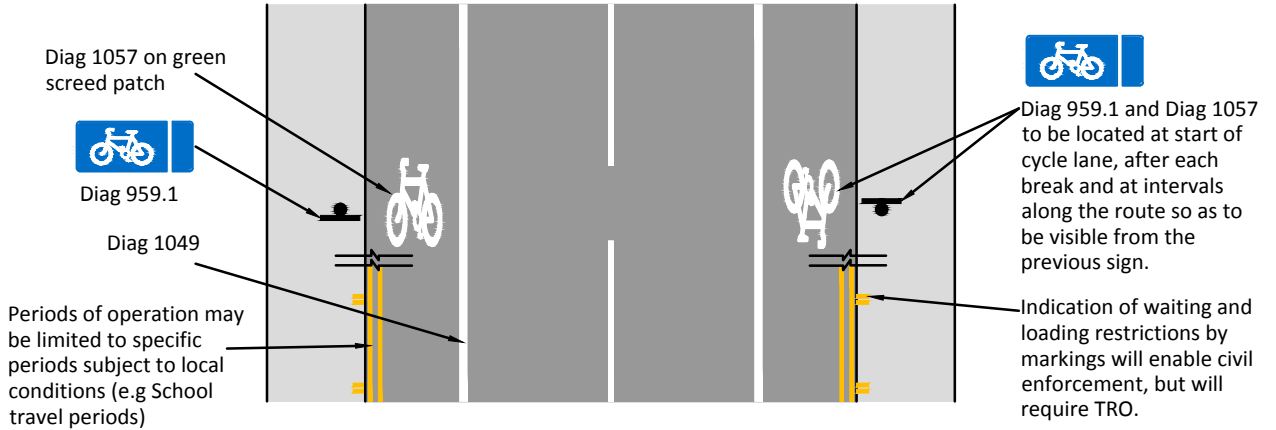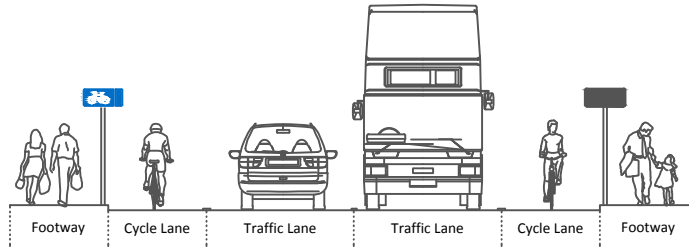- Cost estimate assume cycle facility provisions on both sides of the carriageway.

Drawing No:	L-CT-HT-01	Rev:
Lead Section:	LINKS	

Diag 1057 on green screed patch

Diag 959.1

Diag 1049

Periods of operation may be limited to specific periods subject to local conditions (e.g School travel periods)

Diag 959.1 and Diag 1057 to be located at start of cycle lane, after each break and at intervals along the route so as to be visible from the previous sign.

Indication of waiting and loading restrictions by markings will enable civil enforcement, but will require TRO.

	Footway	Cycle Lane	Traffic Lane	Traffic Lane	Cycle Lane	Footway
Target	>2.0m	2.0m	3.5m	3.5m	2.0m	>2.0m
Absolute Minimum	1.8m(1)	1.3m(2)	3.0m(3)	3.0m(3)	1.2m(2)	1.8m(1)

(1) Localised narrowing of footway due to street furniture permitted - need to reflect pedestrian flows.
(2) Absolute minimum cycle lane width only permitted for low cycle demand (<100/day) over distances < 100m, not on gradients > 7%.
(3) Absolute minimum traffic lane 3.25m if bus route, HGV levels > 8% or speed limit > 30mph. 3.0 where there are no buses and few HGVs

Advantages:
- Exclusive use by cyclists during specified hours of operation
- Delineated by a solid line, less likely to be crossed by drivers than an advisory lane
- Drivers commit an offence if they enter the lane

Disadvantages:
- Requires a TRO which can be a lengthy process and subject to objections
- Has to revert to advisory where vehicles can legitimately cross (e.g. junctions, adjacent to parking or loading bays, where traffic lanes are narrow)
- High level of statutory signing requirements
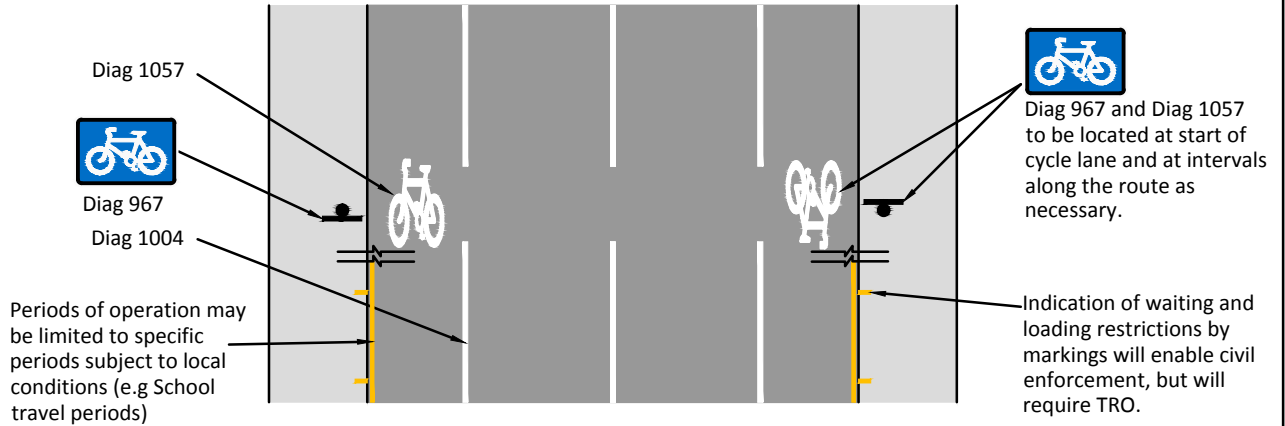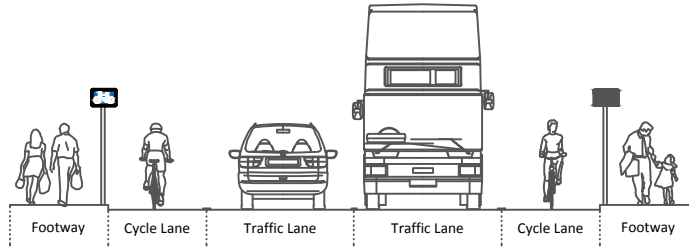
Key Criteria:

- Consistent quality is essential, no changes in lane widths, no "gaps".
- Sufficient road width must be available to cater for other road users outside the cycle lane.
- Parking and loading not permitted in cycle lane and must be provided elsewhere if required. Mandatory cycle lane has to change to advisory cycle lane through junctions, at bus stops, and at parking and loading areas.
- Smooth, flat, well-drained and well-maintained surface.
- Gullies preferably located in kerb (or a continuous drainage system) and not in cycle lane.
- 24-hour operation.

Typical Costs:

Work Zone Length	1000m
Lower Cost Estimate	£70,000
Upper Cost Estimate	£265,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on both sides of the carriageway.

Drawing No:	L-CL-GE-01	Rev:
Lead Section:	LINKS	

Footway | Cycle Lane | Traffic Lane | Traffic Lane | Cycle Lane | Footway

Diag 1057

Diag 967

Diag 1004

Diag 967 and Diag 1057 to be located at start of cycle lane and at intervals along the route as necessary.

Periods of operation may be limited to specific periods subject to local conditions (e.g School travel periods)

Indication of waiting and loading restrictions by markings will enable civil enforcement, but will require TRO.

	Footway	Cycle Lane	Traffic Lane	Traffic Lane	Cycle Lane	Footway
Target	>2.0m	2.0m	3.5m	3.5m	2.0m	>2.0m
Absolute Minimum	1.8m(1)	1.2m(2)	3.0m(3)	3.0m(3)	1.2m(2)	1.8m(1)

(1) Localised narrowing of footway due to street furniture permitted - need to reflect pedestrian flows.
(2) Absolute minimum cycle lane width only permitted for low cycle demand (<100/day) over distances < 100m, not on gradients > 7%.
(3) Absolute minimum traffic lane 3.25m if bus route, HGV levels > 8% or speed limit > 30mph. 3.0m where there are no buses and few HGVs

Advantages:
- No TRO required for cycle lane
- Quick to introduce
- Low level of signing
- Solution for use alongside adjacent parking and loading bays, bus stops and across junctions, or on sections of road with narrow traffic lanes

Disadvantages:
- Indicative only - no statutory backing
- Largely ignored by other road users
- TRO may be required to keep lane clear of parked and loading vehicles at specific times
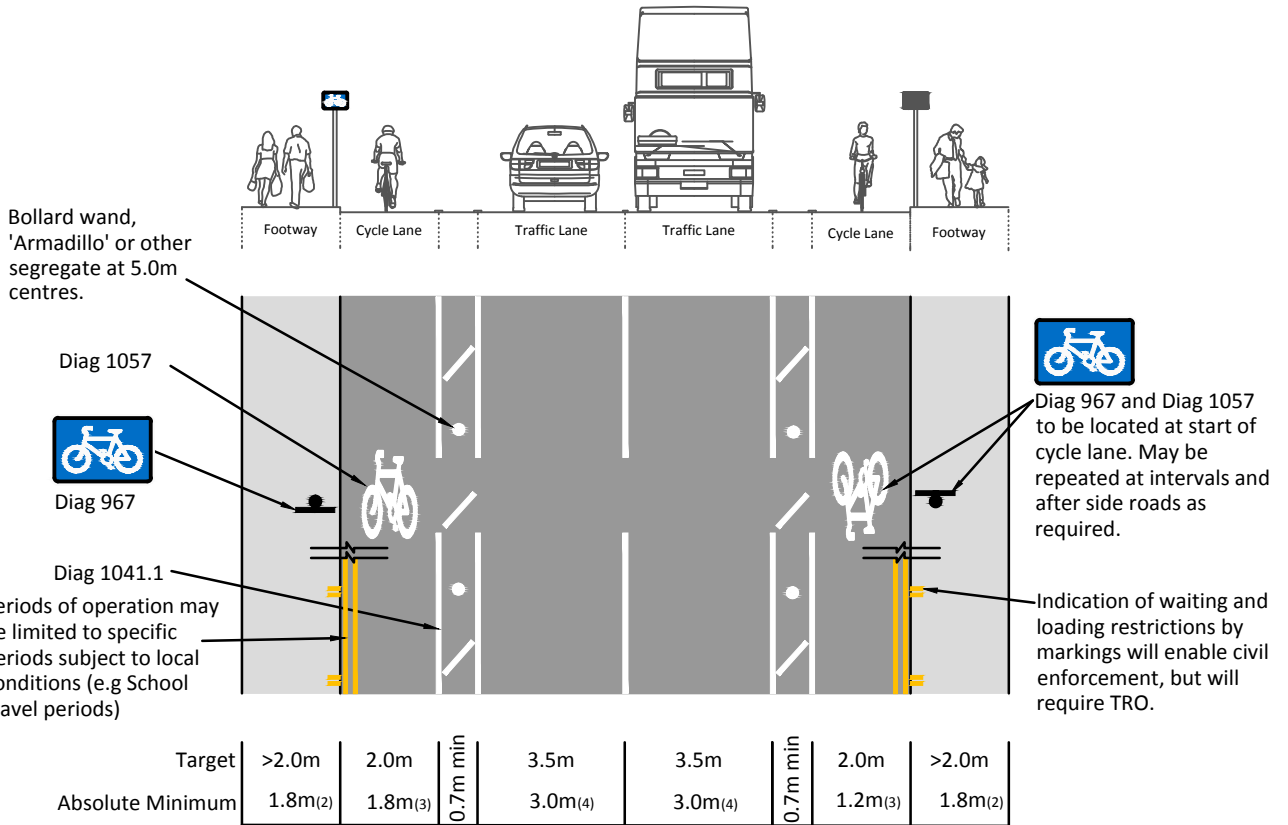
Key Criteria:

- Consistent quality is essential, no changes in lane widths, no "gaps".
- Sufficient road width must be available to cater for other road users outside the cycle lane.
- Advisory cycle lanes should be used where there are demands for waiting or loading that cannot be mitigated by design. A Traffic Regulation Order will be required to impose waiting and loading restrictions appropriate to the level of prohibition required.
- Smooth, flat, well-drained and well-maintained surface.
- Gullies preferably located in kerb (or a continuous drainage system) and not in cycle lane.

Typical Costs:

Work Zone Length	1000m
Lower Cost Estimate	£70,000
Upper Cost Estimate	£265,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on both sides of the carriageway.

Drawing No:	L-CL-GE-02	Rev:
Lead Section:	LINKS	

Footway | Cycle Lane | Traffic Lane | Traffic Lane | Cycle Lane | Footway

Bollard wand, 'Armadillo' or other segregate at 5.0m centres.

Diag 1057

Diag 967

Diag 1041.1

Periods of operation may be limited to specific periods subject to local conditions (e.g School travel periods)

Diag 967 and Diag 1057 to be located at start of cycle lane. May be repeated at intervals and after side roads as required.

Indication of waiting and loading restrictions by markings will enable civil enforcement, but will require TRO.

	Footway	Cycle Lane		Traffic Lane	Traffic Lane		Cycle Lane	Footway
Target	>2.0m	2.0m	0.7m min	3.5m	3.5m	0.7m min	2.0m	>2.0m
Absolute Minimum	1.8m(2)	1.8m(3)		3.0m(4)	3.0m(4)		1.2m(3)	1.8m(2)

(1) Effective width subject to pedestrian flow.
(2) Localised narrowing of footway due to street furniture permitted.
(3) Absolute minimum cycle track width only permitted for low cycle demand (<100/day) over distances < 100m, not on gradients > 7%.
(4) Absolute minimum traffic lane 3.25 if bus route, HGV levels > 8% or speed limit > 30mph. 3.0m there are no busses and limited HGV traffic

Advantages:
- No TRO required
- Quick to introduce
- Low level of signing
- Solution for use alongside adjacent parking and loading bays, bus stops and across junctions, or on sections of road with narrow traffic lanes

Disadvantages:
- Requires wide kerb to kerb width.
- May require a TRO to keep lane clear of parked and loading vehicles at specific times
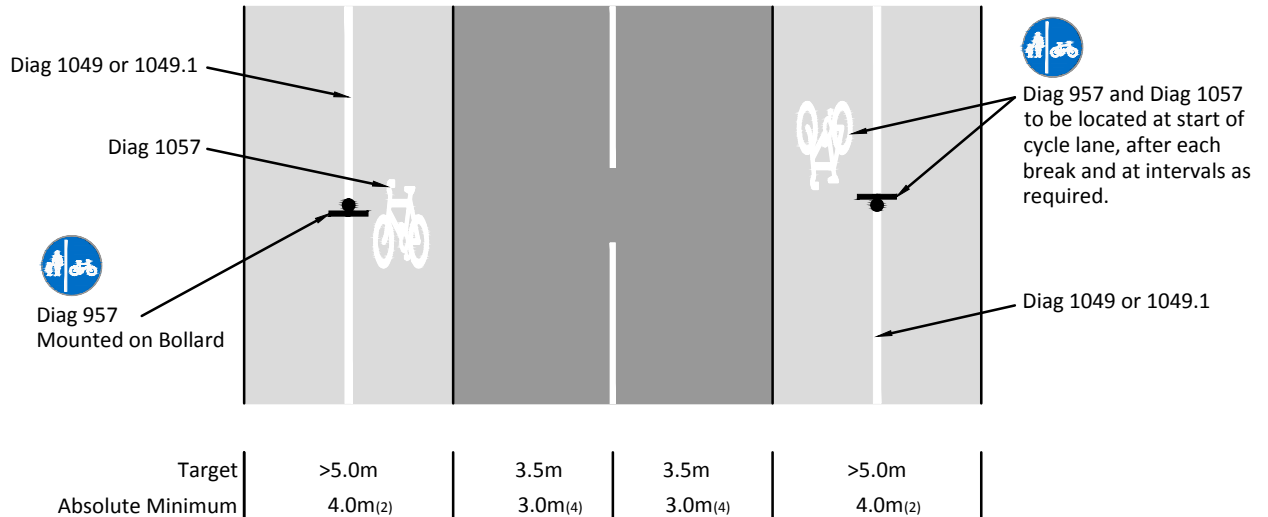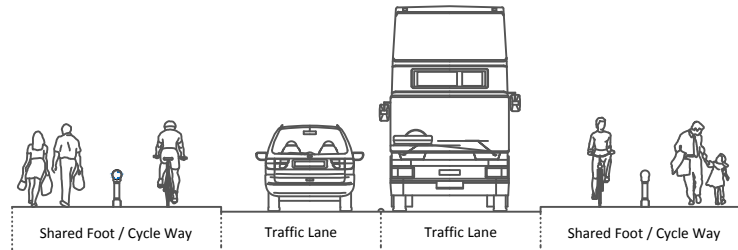
Key Criteria:

- Consistent quality is essential, no changes in lane widths, no "gaps".
- Sufficient road width must be available to cater for other road users outside the cycle lane.
- Parking and loading not permitted in cycle lane and must be provided elsewhere if required. Mandatory cycle lane may change to advisory cycle lane through junctions, at bus stops, and at parking and loading areas.
- Gullies preferably located in kerb (or a continuous drainage system) and not in cycle lane.
- Maybe Advisory (as shown) or mandatory by use of continuous bounding line on cycle lane side of Diag 1041.1 marking.

Typical Costs:

Work Zone Length	1000m
Lower Cost Estimate	£160,000
Upper Cost Estimate	£1,000,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on both sides of the carriageway.

Drawing No:	L-CL-GE-03	Rev:
Lead Section:	LINKS	

| | BIRMINGHAM CYCLE REVOLUTION | Title: ADJACENT FOOTWAY + CYCLE TRACK |

| | Shared Foot / Cycle Way | Traffic Lane | Traffic Lane | Shared Foot / Cycle Way |

Diag 1049 or 1049.1

Diag 1057

Diag 957
Mounted on Bollard

Diag 957 and Diag 1057 to be located at start of cycle lane, after each break and at intervals as required.

Diag 1049 or 1049.1

	Shared Foot / Cycle Way	Traffic Lane	Traffic Lane	Shared Foot / Cycle Way
Target	>5.0m	3.5m	3.5m	>5.0m
Absolute Minimum	4.0m(2)	3.0m(4)	3.0m(4)	4.0m(2)

(1) Effective width.
(2) Localised narrowing of footway due to street furniture permitted.
(3) Absolute minimum cycle/ped width only permitted for low cycle demand (<100/day) over distances < 100m, not on gradients > 7%.
(4) Absolute minimum traffic lane 3.25m if bus route, HGV levels > 8% or speed limit > 30mph

Advantages:
- High profile facility exclusively for cycles
- Provides positive physical segregation from motorised traffic and pedestrians

Disadvantages:
- Segregation may not be observed, leading to conflict.
- Sometimes complex solutions for bus stops and adjacent on-street parking or loading areas.
- Requires wide highway.
- High construction costs.
- Side road crossing can be a problem.
- Likely to be used as two-way by cyclists.

Key Criteria:

- Physical segregation between cyclists and both motorised vehicles and pedestrians.
- 24-hour operation
- Street furniture including lighting columns and signs and supporting structures to be located outside of cycle track
- Consistent quality is essential, no changes in track widths, no "gaps"
- No coloured surfacing
- Smooth, flat, well-drained and well-maintained surface
- Not suitable where frequent side roads / driveway accesses intersect cycle track

Typical Costs:

Work Zone Length	1000m
Lower Cost Estimate	£190,000
Upper Cost Estimate	£1,200,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on both sides of the carriageway.
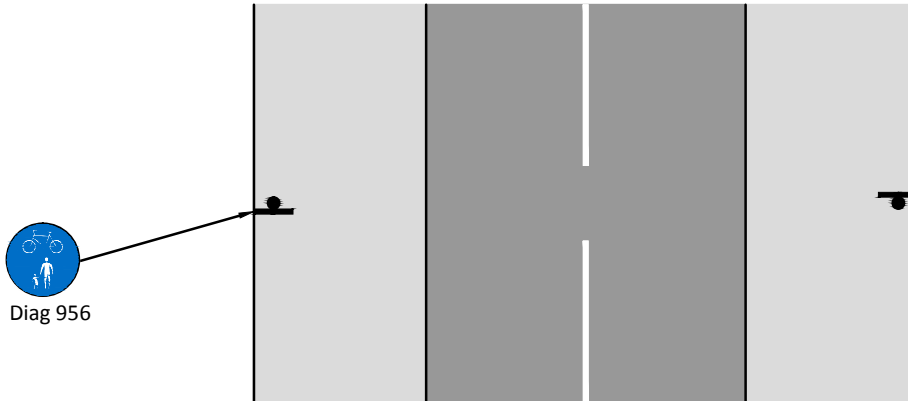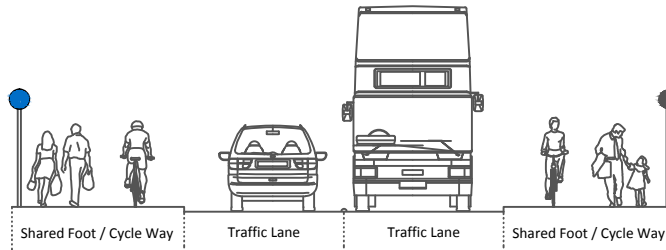
| Drawing No: | L-SF-GE-01 | Rev: |
| Lead Section: | LINKS | |

Diag 956 to be located at start of cycle lane, after each break and at intervals along the route so as to be visible from the previous sign.

Diag 956

	Shared Foot / Cycle Way	Traffic Lane	Traffic Lane	Shared Foot / Cycle Way
Target	>3.0m	3.5m	3.5m	>3.0m
Absolute Minimum	2.5m(2)(3)	3.0m(4)	3.0m(4)	2.5m(2)(3)

(1) Effective width.
(2) Localised narrowing of footway due to street furniture permitted.
(3) Absolute minimum cycle/ped width only permitted where few pedestrians use footway (<100/day) over distances < 100m, not on gradients > 7%.
(4) See Table 7, Chapter 2 for minimum general traffic lane widths.

Advantages:
- Provides some protection on link sections

Disadvantages:
- Ped/Cycle conflict
- Sometimes complex solutions for bus stops and adjacent   on-street parking or loading areas
- Requires wide highway
- High construction costs
- Problematic at side roads
- Usually used as 2-way by cyclists

Key Criteria:

- Physical segregation between cyclists and both motorised vehicles and pedestrians.
- 24-hour operation
- Street furniture including lighting columns and signs and supporting structures to be located outside of cycle track
- Consistent quality is essential, no changes in track widths, no "gaps"
- No coloured surfacing
- Smooth, flat, well-drained and well-maintained surface
- Not suitable where frequent side roads / driveway accesses intersect cycle track

Typical Costs:

Work Zone Length	1000m
Lower Cost Estimate	£105,000
Upper Cost Estimate	£690,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
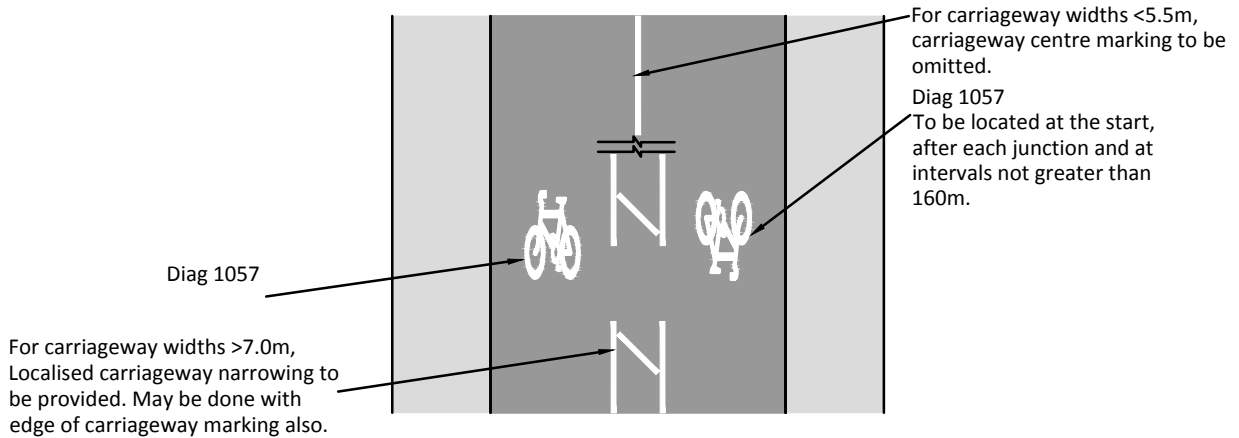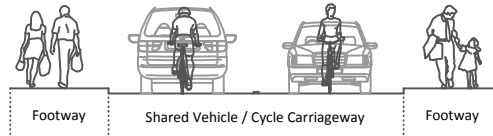- Cost estimate assume cycle facility provisions on both sides of the carriageway.

Drawing No:	L-SF-GE-02	Rev:
Lead Section:	LINKS	

Footway | Shared Vehicle / Cycle Carriageway | Footway

For carriageway widths <5.5m, carriageway centre marking to be omitted.

Diag 1057
To be located at the start, after each junction and at intervals not greater than 160m.

Diag 1057

For carriageway widths >7.0m, Localised carriageway narrowing to be provided. May be done with edge of carriageway marking also.

Target	>2.0m		>2.0m
Desirable Minimum	2.0m(1)	7.0m max available carriageway	2.0m(1)
Absolute Minimum	1.8m(2)		1.8m(2)

(1) Effective width subject to pedestrian flow.
(2) Localised narrowing of footway due to street furniture permitted.
(3) Upright signs Diag 967 may be used if considered necessary.

Advantages:

- Solution for narrow streets where there is insufficient width for formal cycle priority
- Provides continuity of designated cycle routes in such situations

Disadvantages:

- Depends on cyclists establishing their position in the lane

Key Criteria:

- Appropriate for roads with carriageway width <7.0m, and subject to 20mph speed limit
- No segregation between cyclists and motorised vehicles - cyclists encouraged to occupy full lane, and traffic follows
- On carriageways less than 5.5m in width, centre line omitted
- Suitable for roads subject to low traffic volumes and little or no through traffic
- Careful detailing required when traffic calming present.
- 20mph speed limit or quiet 30mph road typically < 3000 VPD

Typical Costs:

Work Zone Length	1000m
Lower Cost Estimate	£100,000
Upper Cost Estimate	£680,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
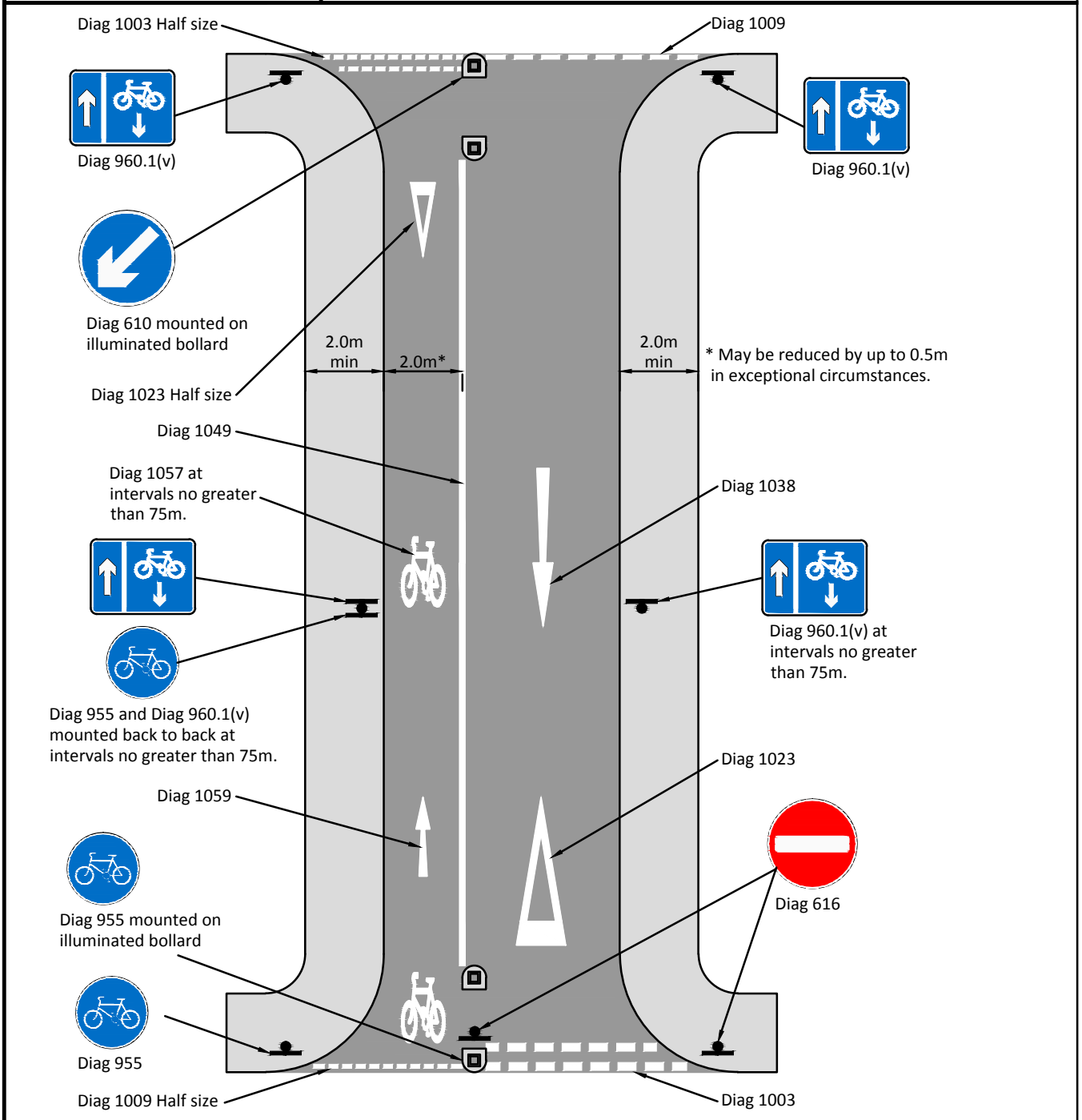- Cost estimate assume cycle facility provisions on both sides of the carriageway.

Drawing No:	L-QS-GE-01	Rev:
Lead Section:	LINKS	

BIRMINGHAM CYCLE REVOLUTION

Title:

MANDATORY CONTRAFLOW CYCLE LANE

Diag 1003 Half size

Diag 1009

Diag 960.1(v)

Diag 960.1(v)

Diag 610 mounted on illuminated bollard

Diag 1023 Half size

2.0m min

2.0m*

2.0m min

* May be reduced by up to 0.5m in exceptional circumstances.

Diag 1049

Diag 1057 at intervals no greater than 75m.

Diag 1038

Diag 960.1(v) at intervals no greater than 75m.

Diag 955 and Diag 960.1(v) mounted back to back at intervals no greater than 75m.

Diag 1059

Diag 1023

Diag 616

Diag 955 mounted on illuminated bollard

Diag 955

Diag 1009 Half size
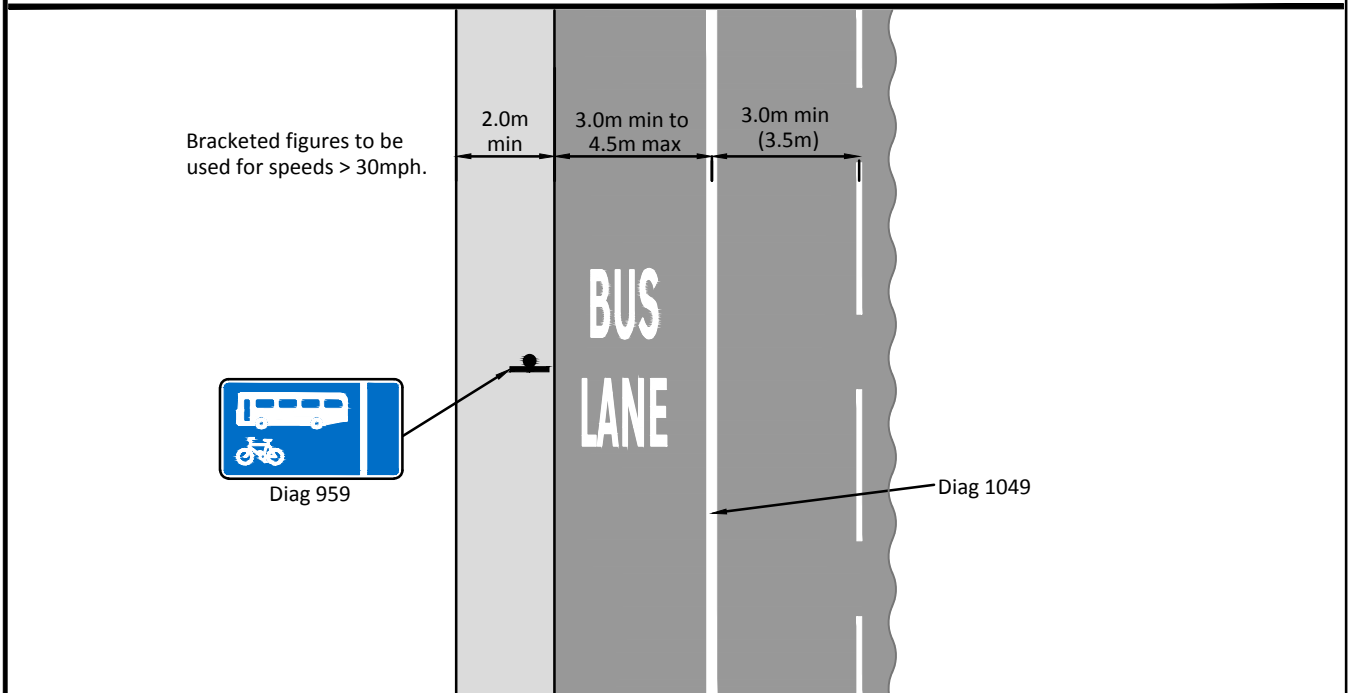
Diag 1003

Key Criteria:

- Use on one-way streets
- May also incorporate with-flow cycle lane on opposite side.
- Can provide improved accessibility and continuity for cycle routes in one-way networks.

Typical Costs:

Work Zone Length	1000m
Lower Cost Estimate	£80,000
Upper Cost Estimate	£100,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.

Drawing No:	L-CL-CF-01	Rev:
Lead Section:	LINKS	

Bracketed figures to be used for speeds > 30mph.

2.0m min

3.0m min to 4.5m max

3.0m min (3.5m)

BUS LANE

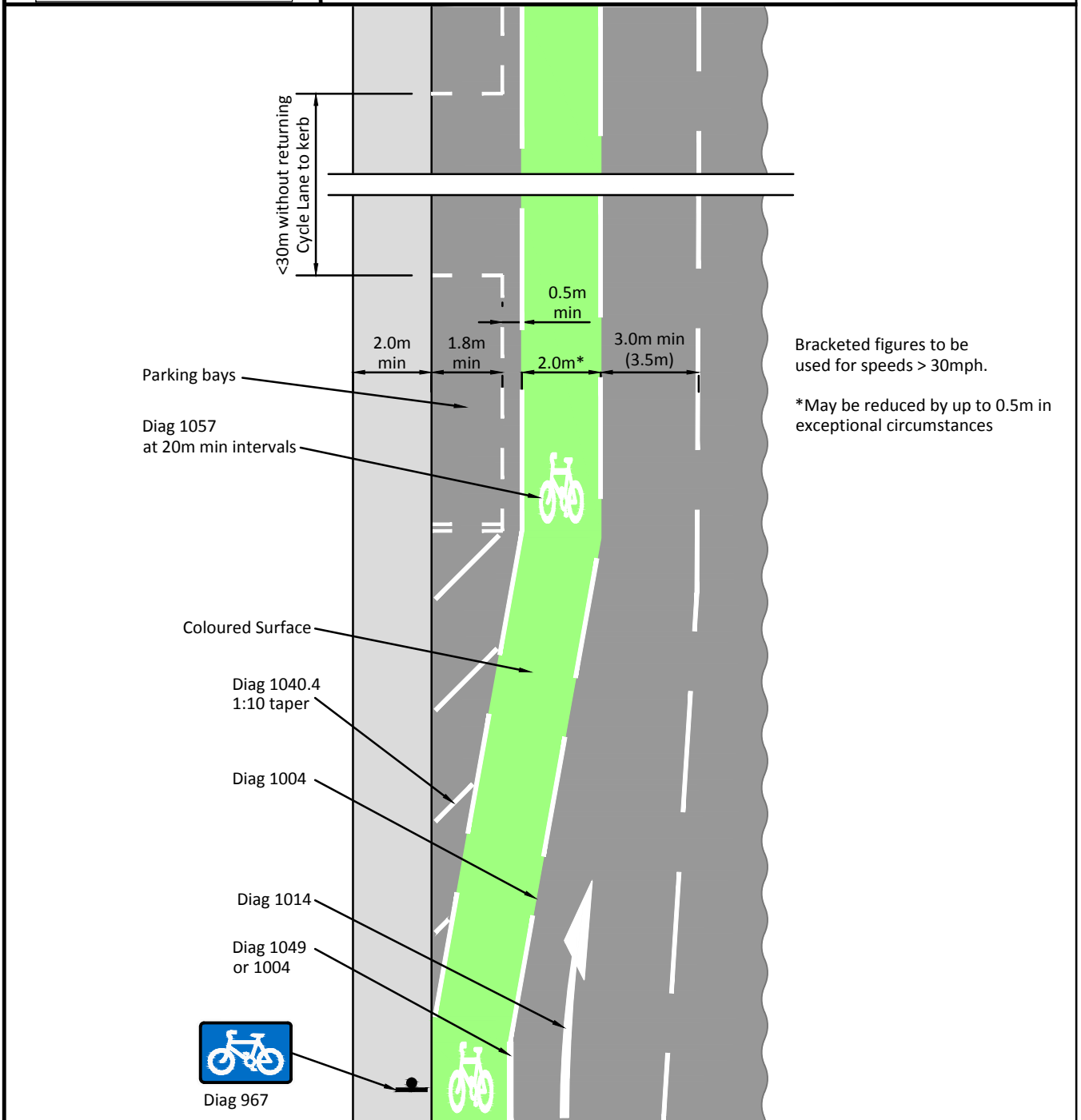Diag 959

Diag 1049

Key Criteria:

- At locations where a 4.5m Bus and Cycle Lane can be provided, a 1.5m advisory cycle lane should be marked adjacent to the kerb. This provides confidence for the cyclists using the lane, and a guide to bus drivers that sufficient clearance is available to overtake within the confines of the Bus Lane.
- At bus stops, the advisory cycle lane marking should be terminated at the bus cage, and re-started beyond. There will be sufficient width between the outer longitudinal edge of the bus cage marking and the outer bounding line of the Bus Lane to provide a passing lane for cyclists when the bus cage is occupied.
- If available road width constrains Bus Lane width, then the maximum width of the Bus Lane is 3.2m. This prevents users from misjudging clearances when overtaking. Cycles are still allowed to use the Bus Lane
- At bus stops, the advisory cycle lane marking should be terminated at the bus cage, and re-started beyond. As the gap between bus cage and bounding line is likely to be narrow (about 0.5m), consideration should be given to local widening of the Bus Lane through the bus stop to provide a 1.5m passing lane for cyclists.

Typical Costs:

Work Zone Length	1000m
Lower Cost Estimate	£200,000 / (£130,000)
Upper Cost Estimate	£1,200,000 / (£780,000)

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Bracketed figure are Bus Lane Only.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on one side of the carriageway.

Drawing No:	L-CL-BL-01	Rev:
Lead Section:	LINKS	

Title:

CYCLE LANE AT PARKING BAYS

<30m without returning Cycle Lane to kerb

0.5m min

2.0m min

1.8m min

2.0m*

3.0m min (3.5m)

Parking bays

Diag 1057 at 20m min intervals

Coloured Surface

Diag 1040.4 1:10 taper

Diag 1004

Diag 1014

Diag 1049 or 1004

Diag 967

Bracketed figures to be used for speeds > 30mph.

*May be reduced by up to 0.5m in exceptional circumstances

Key Criteria:

- Suitable where there is high kerbside activity
- Loading bays to be 2.0m minimum width

Typical Costs:

Work Zone Length	75m
Lower Cost Estimate	£15,000
Upper Cost Estimate	£80,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on one side of the carriageway.

Drawing No:	L-CL-PK-01	Rev:
Lead Section:	LINKS	

Title:

CYCLE LANE AT PARKING BAYS

BIRMINGHAM CYCLE REVOLUTION

Diag 967

Diag 1057

Collapsable pole/wand/bollard if armadillos are to be used

Diag 1040.4
1:5 exit taper

0.7m

| 2.0m min | 2.0m min | 1.8m min | 3.0m min (3.5m) |

Bracketed figures to be used for speeds > 30mph.

Diag 967

Diag 1057

Diag 1040.3

Diag 1040.4
1:10 entry taper

Diag 1014

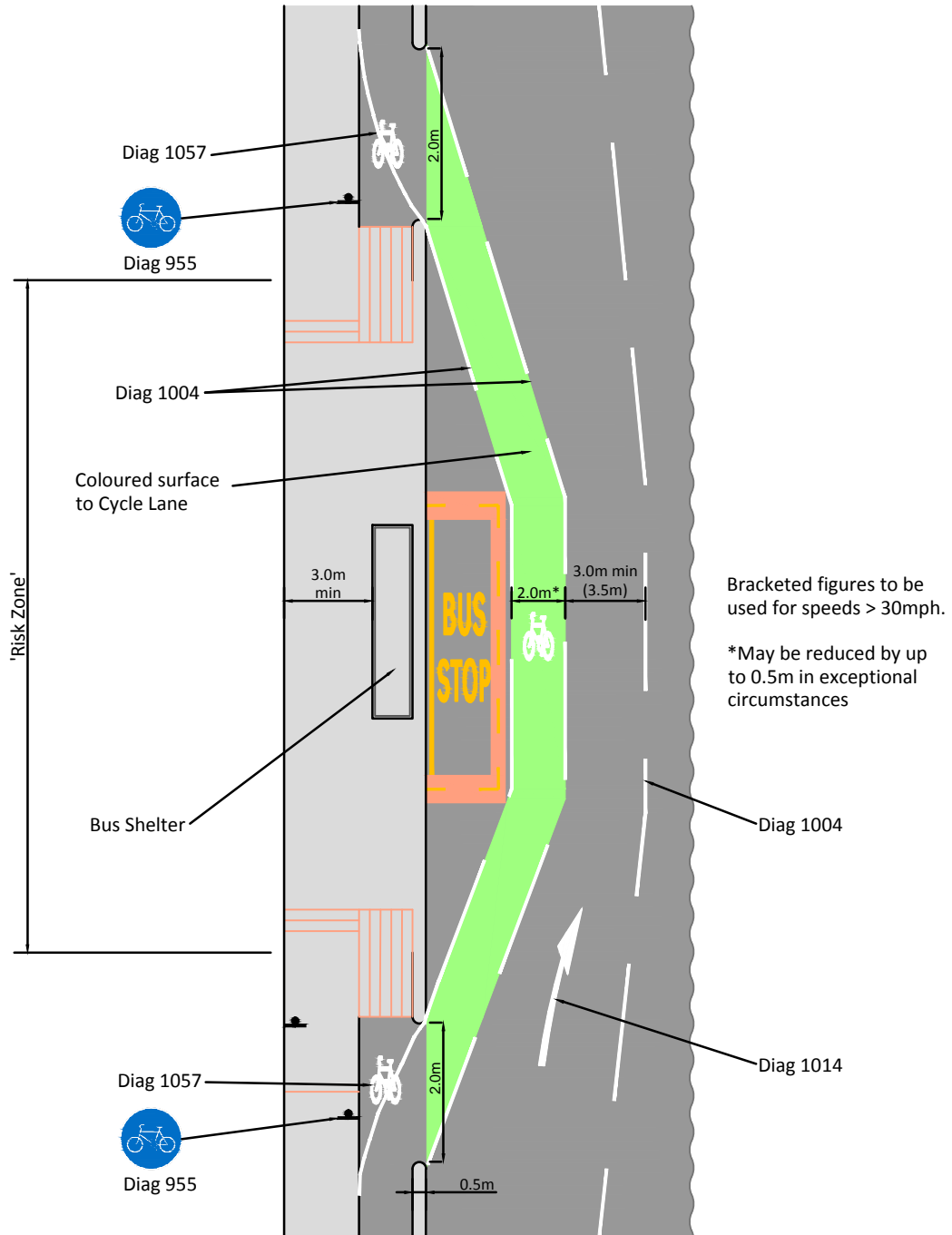Collapsable pole/wand/bollard if armadillos are to be used

Diag 967

Key Criteria:

- Permeable barriers (e.g. 'armadillos' may be installed within the Diag 1004 hatched areas at 5.0m centres subject to DfT approval
- Suitable where there is low kerbside activity.

Typical Costs:

Work Zone Length	75m
Lower Cost Estimate	£15,000
Upper Cost Estimate	£105,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on one side of the carriageway.

Drawing No:	L-CL-PK-02	Rev:
Lead Section:	LINKS	

Diag 1057

Diag 955

Diag 1004

Coloured surface to Cycle Lane

'Risk Zone'

2.0m

3.0m min

BUS STOP

3.0m min (3.5m)

2.0m*

Bracketed figures to be used for speeds > 30mph.

*May be reduced by up to 0.5m in exceptional circumstances

Bus Shelter

Diag 1004

Diag 1057

Diag 955

2.0m

0.5m
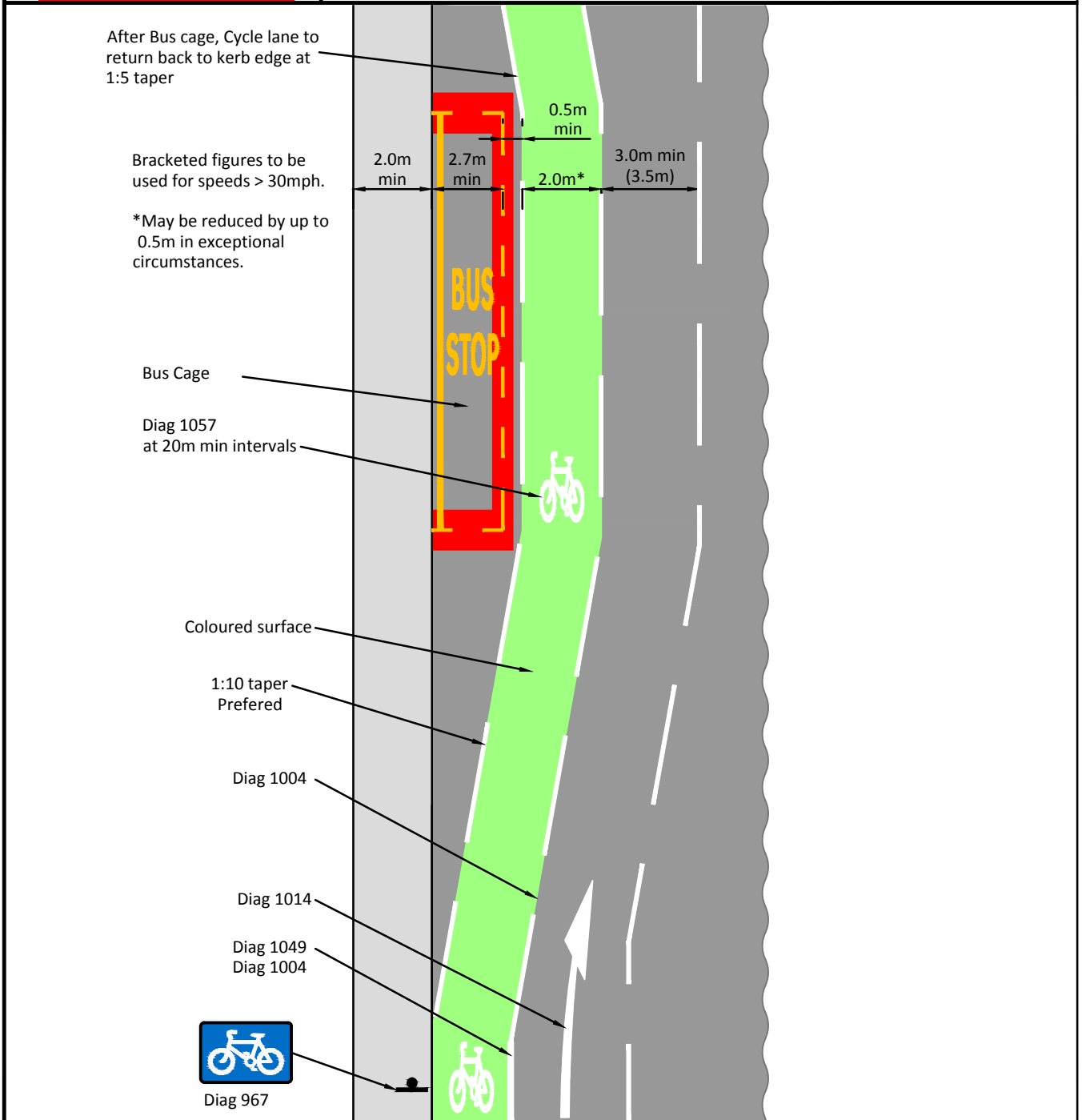
Diag 1014

Key Criteria:

- Shared footway/cycleway behind bus shelter may be segregated or unsegregated according to levels of pedestrian and cycle use
- On-carriageway cycle lane may simply terminate at the bus cage and re-start beyond if the bus stop has a low frequency of occupancy (less than 30 buses per hour)
- Careful management of pedestrians / cycle conflict required within the 'Risk Zone'.

Typical Costs:

Work Zone Length	75m
Lower Cost Estimate	£40,000
Upper Cost Estimate	£155,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on one side of the carriageway.

Drawing No:	L-CT-BS-01	Rev:
Lead Section:	LINKS	

After Bus cage, Cycle lane to return back to kerb edge at 1:5 taper

Bracketed figures to be used for speeds > 30mph.

*May be reduced by up to 0.5m in exceptional circumstances.

Bus Cage

Diag 1057
at 20m min intervals

Coloured surface

1:10 taper
Prefered

Diag 1004

Diag 1014

Diag 1049
Diag 1004

Diag 967

0.5m min

2.0m min

2.7m min

2.0m*

3.0m min (3.5m)

BUS STOP

Key Criteria:

- Use where bus stop has high frequency of occupancy (30 buses per hour or more, or occupied for 30 mins per hour or more)

Typical Costs:

Work Zone Length	75m
Lower Cost Estimate	£20,000
Upper Cost Estimate	£120,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on one side of the carriageway.

	Title:	
BIRMINGHAM CYCLE REVOLUTION		**CYCLE LANE AT BUS STOP**

After Bus cage, edge of carriageway marking to return back to cycle lane edge at 1:5 taper
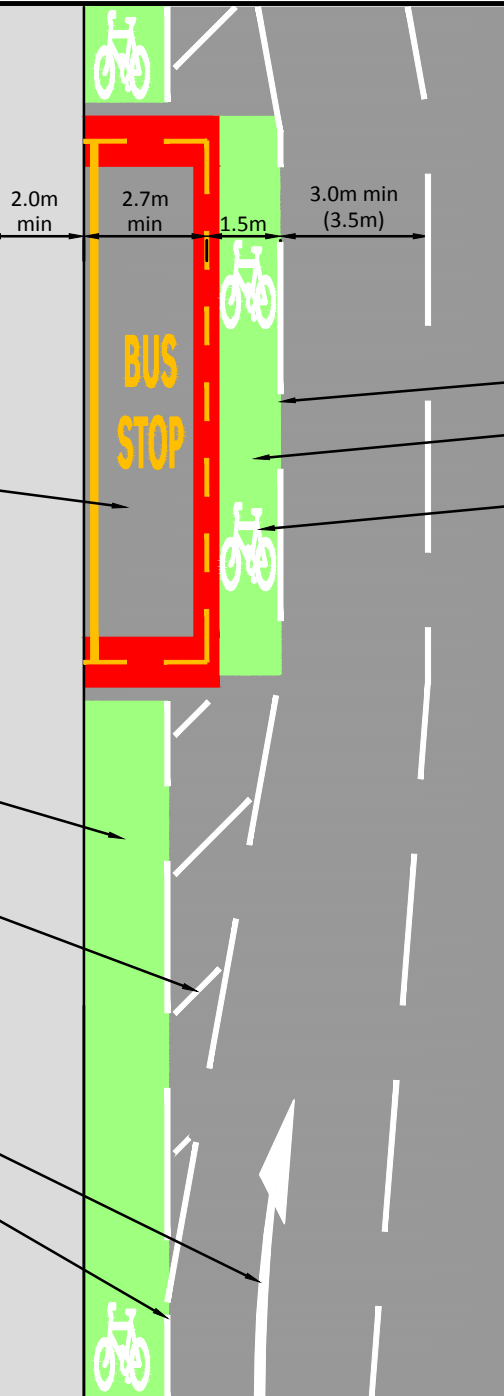
Bracketed figures to be used for speeds > 30mph.

2.0m min

2.7m min

1.5m

3.0m min (3.5m)

Diag 1004

Coloured Surface

Bus Cage

Diag 1057

BUS STOP

Coloured surface

Diag 1040.4 1:10 taper

Diag 1014

Diag 1049 or 1004

Key Criteria:

- Use where bus stop had low frequency of occupancy (less than 30 buses per hour, or occupied for less than 30 minutes per hour)

Typical Costs:

Work Zone Length	75m
Lower Cost Estimate	£20,000
Upper Cost Estimate	£100,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
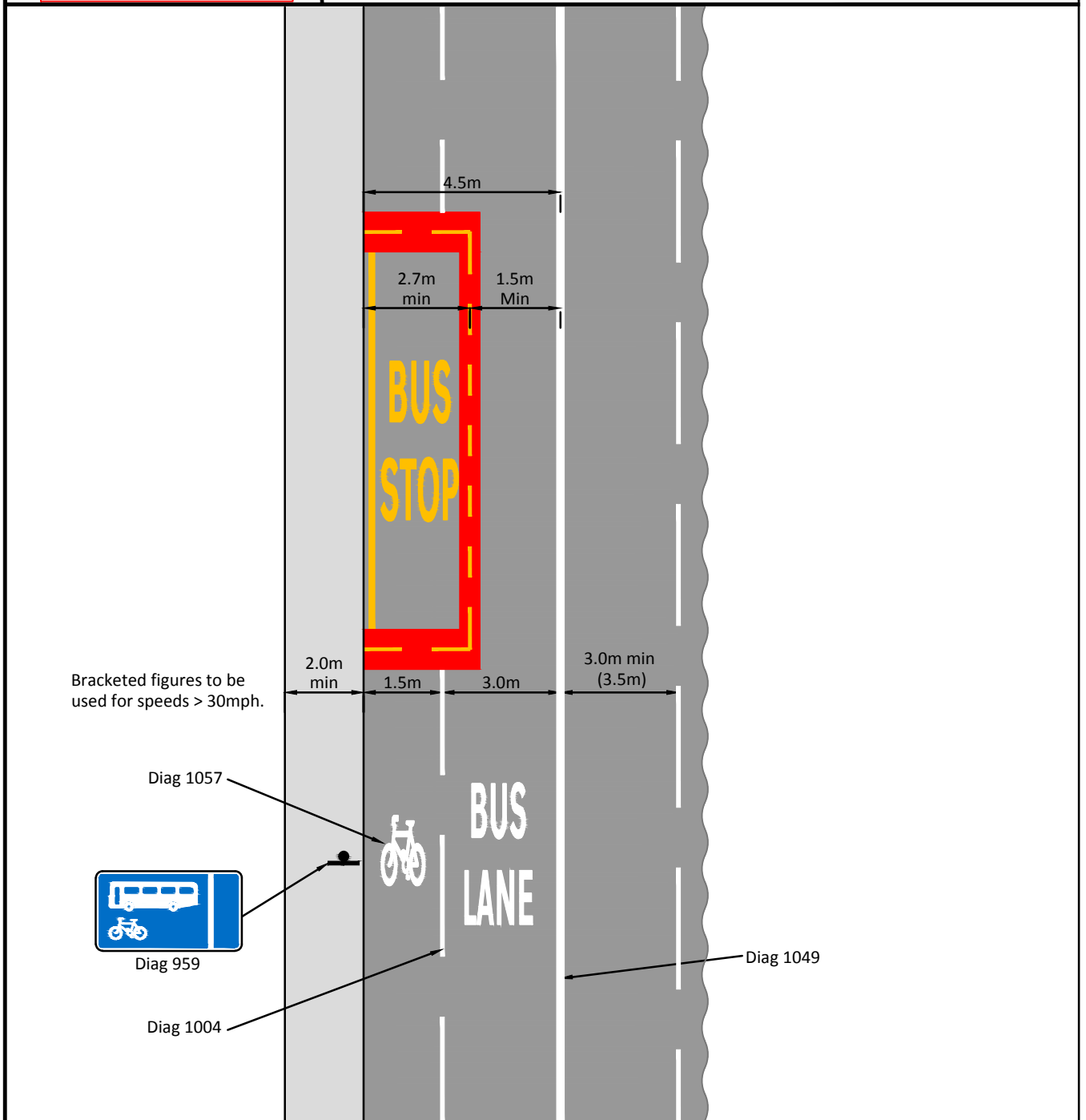- Cost estimate assume cycle facility provisions on one side of the carriageway.

Drawing No:	**L-CL-BS-02**	Rev:
Lead Section:	**LINKS**	

	Title:	
BIRMINGHAM CYCLE REVOLUTION	CYCLE LANE AT BUS STOP WITHIN BUS LANE	

4.5m

2.7m min

1.5m Min

BUS STOP

2.0m min

1.5m

3.0m

3.0m min (3.5m)

Bracketed figures to be used for speeds > 30mph.

Diag 1057

Diag 959

Diag 1004

BUS LANE

Diag 1049

Key Criteria:

- For use on Bus Lanes of 4.5m width.
- See L-CL-BL-01.
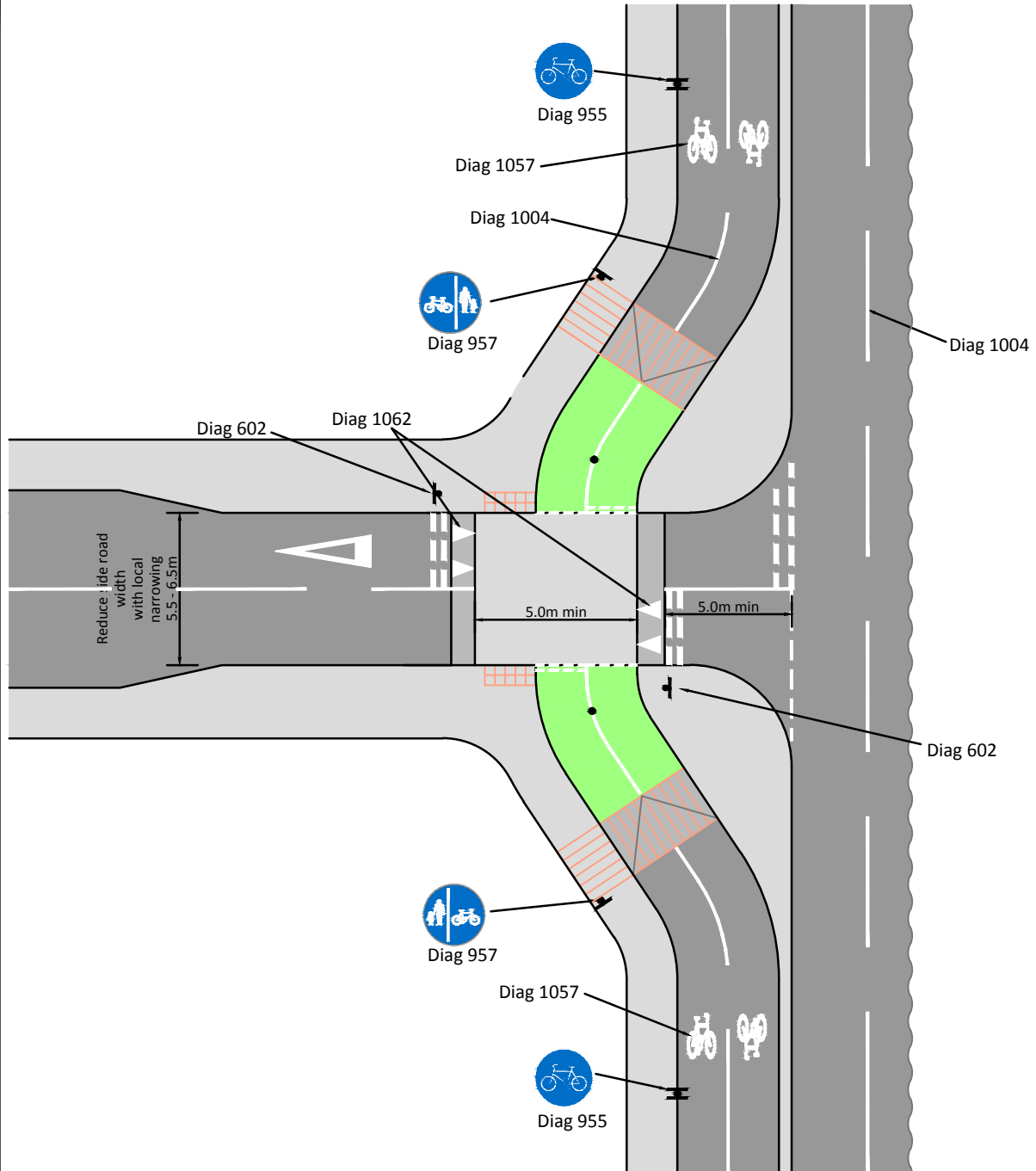
Typical Costs:

Work Zone Length	75m
Lower Cost Estimate	£15,000
Upper Cost Estimate	£75,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on one side of the carriageway.

Drawing No:	L-CL-BS-03	Rev:
Lead Section:	LINKS	
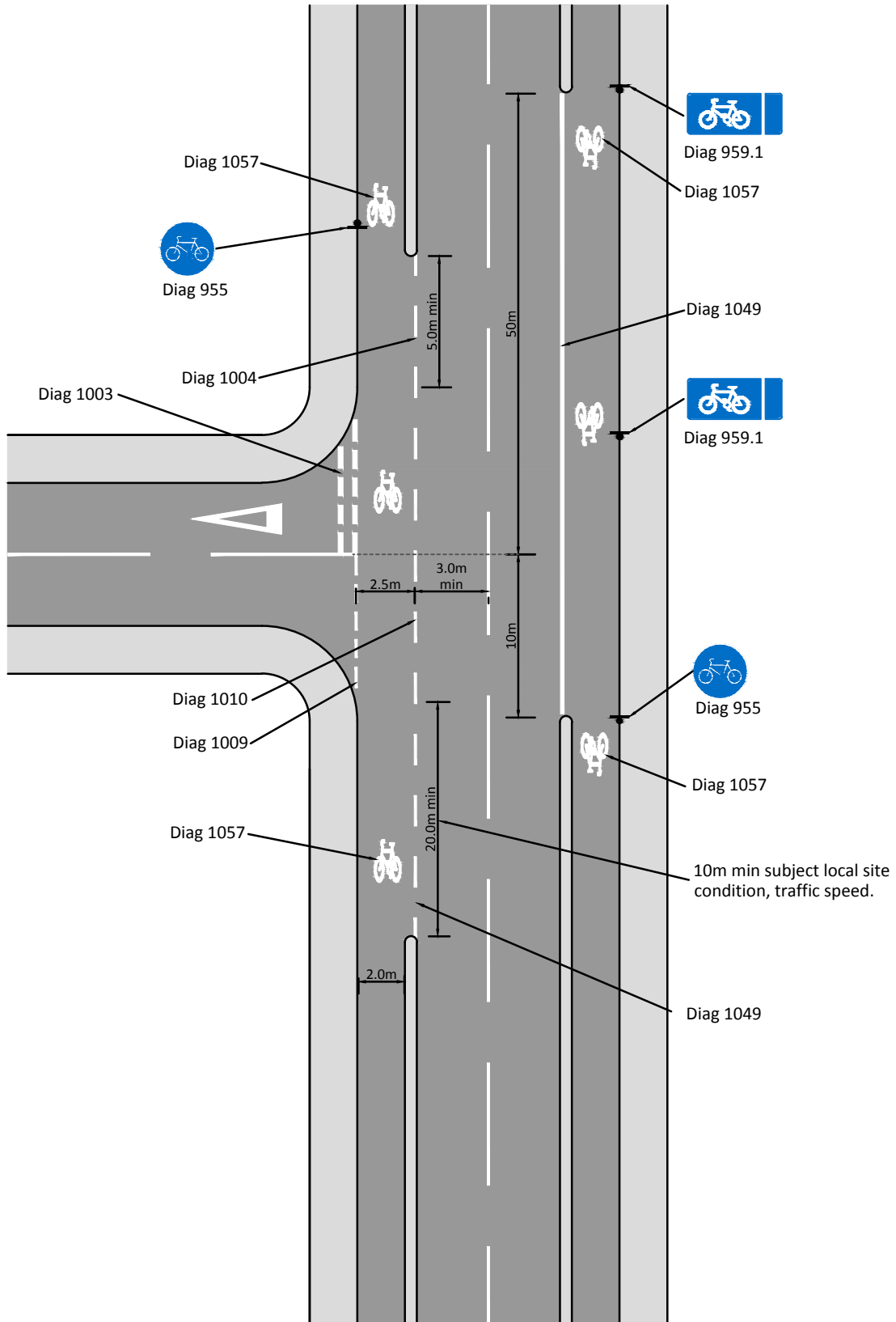
Diag 959.1

Diag 1057

Diag 1057

Diag 955

Diag 1004

Diag 1049

Diag 959.1

Diag 1003

5.0m min

50m

3.0m min

2.5m

10m

Diag 1010

Diag 1009

Diag 955

Diag 1057

20.0m min

Diag 1057

10m min subject local site condition, traffic speed.

2.0m

Diag 1049

Typical Costs:	Work Zone Length	50m
	Lower Cost Estimate	£20,000
	Upper Cost Estimate	£80,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on both sides of the carriageway.

Notes:
- Cycle Track details shown on L-CT-GE-01.

Drawing No: **J-CT-GE-01**   Rev:

Lead Section: **JUNCTIONS**

Diag 955

Diag 1057

Diag 1004

Diag 1004

Diag 957

Diag 602

Diag 1062

Reduce side road width with local narrowing 5.5 - 6.5m

5.0m min

5.0m min

Diag 602

Diag 957

Diag 1057

Diag 955

Typical Costs:

Work Zone Length	50m
Lower Cost Estimate	£30,000
Upper Cost Estimate	£80,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on one side of the carriageway.

Notes:

- Cycle Track details shown on L-CT-GE-02.
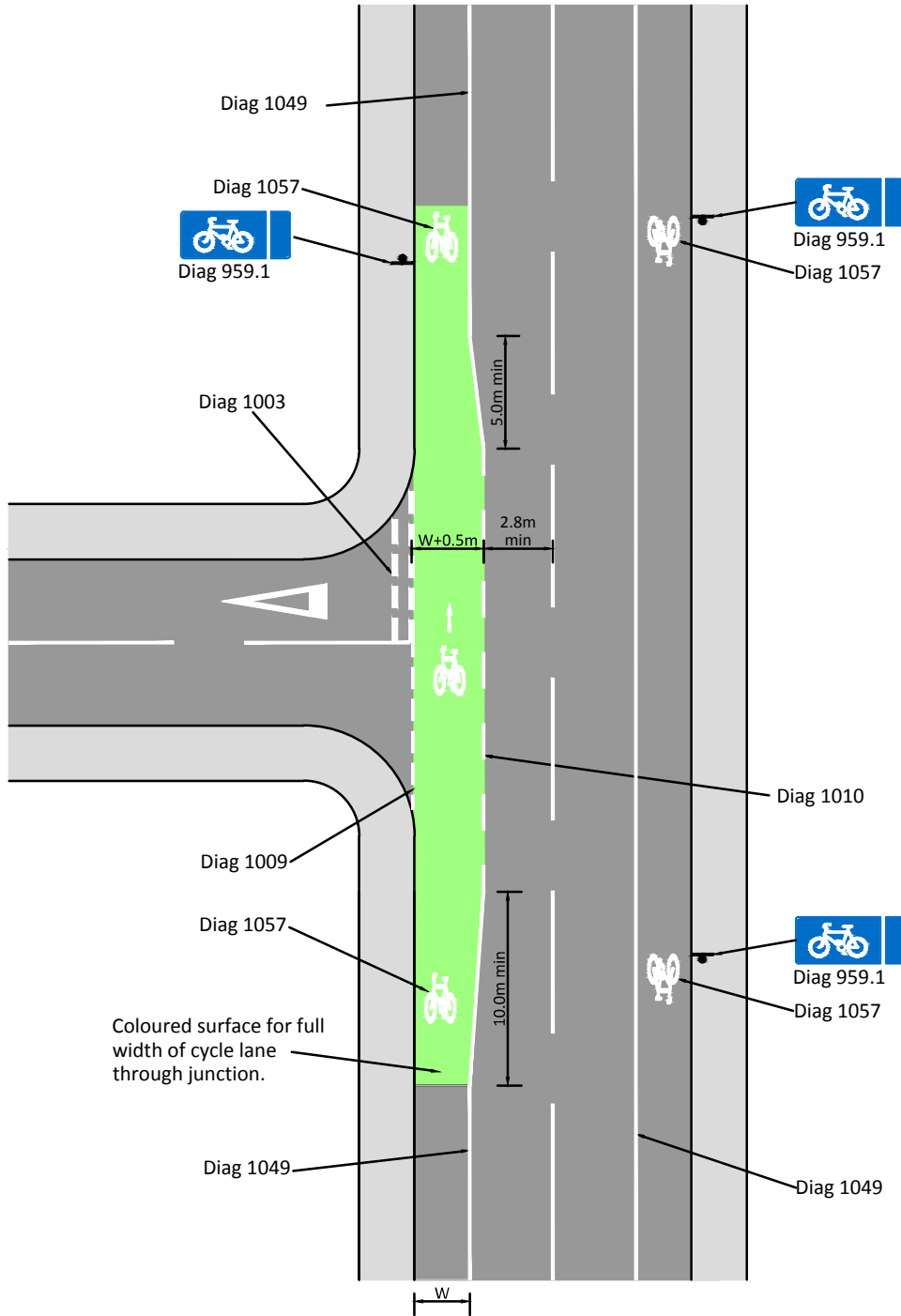- To be used when there is a higher vehicular demand on the side road. (<50 Veh / Hr)

Diag 1049

Diag 1057

Diag 959.1

Diag 959.1

Diag 1057

Diag 1003

5.0m min

2.8m min

W+0.5m

Diag 1010

Diag 1009

Diag 1057

10.0m min

Coloured surface for full width of cycle lane through junction.

Diag 959.1

Diag 1057

Diag 1049

Diag 1049

W

Typical Costs:

Work Zone Length	50m
Lower Cost Estimate	£10,000
Upper Cost Estimate	£50,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on both sides of the carriageway.
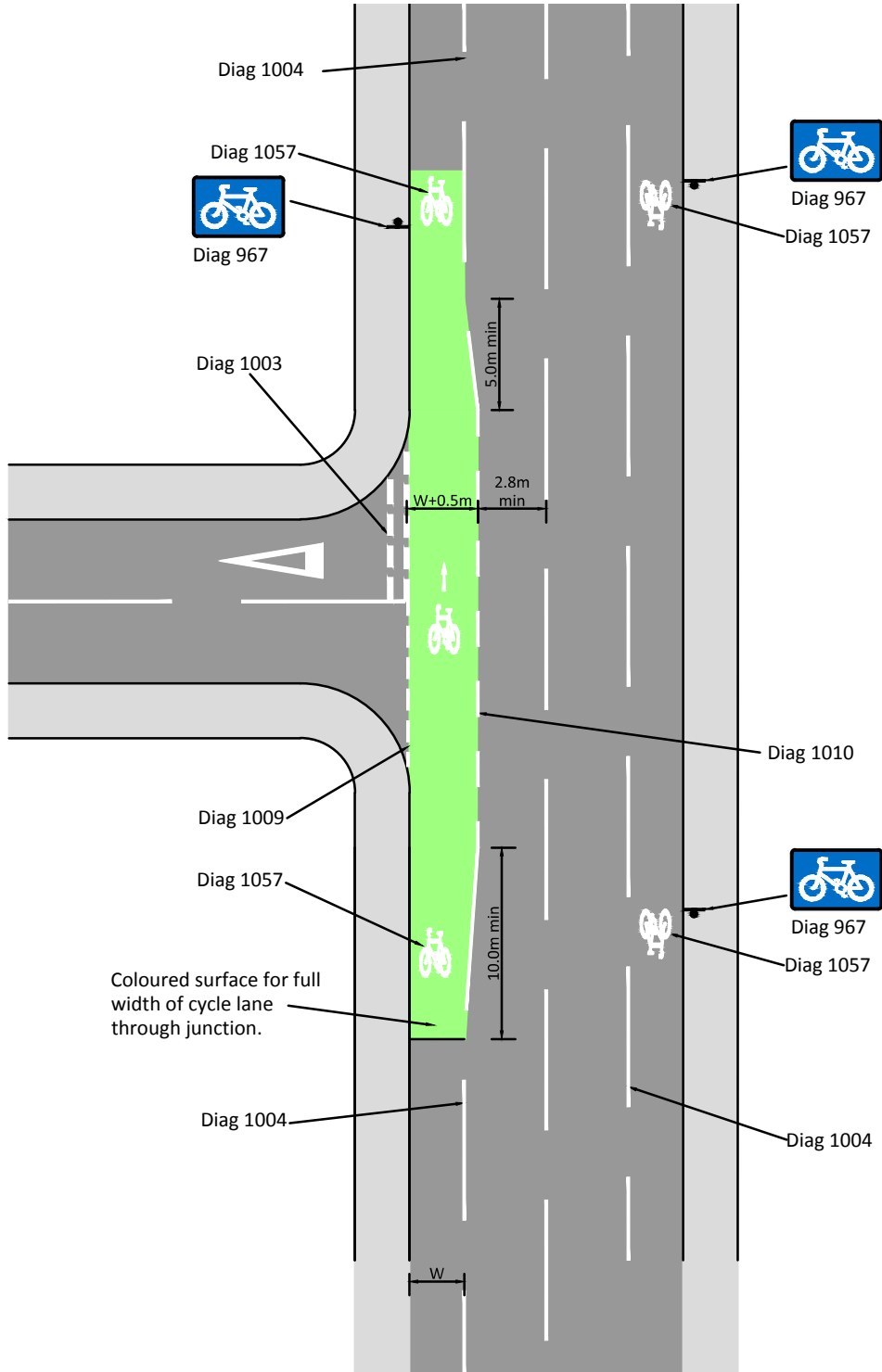
Notes:

Cycle Lane details shown on L-CL-GE-02

Drawing No:	J-CL-GE-01	Rev:
Lead Section:	JUNCTIONS	

Diag 1004

Diag 1057

Diag 967

Diag 967

Diag 1057

Diag 1003

5.0m min

2.8m min

W+0.5m

Diag 1009

Diag 1010

Diag 1057

10.0m min

Coloured surface for full width of cycle lane through junction.

Diag 967

Diag 1057

Diag 1004

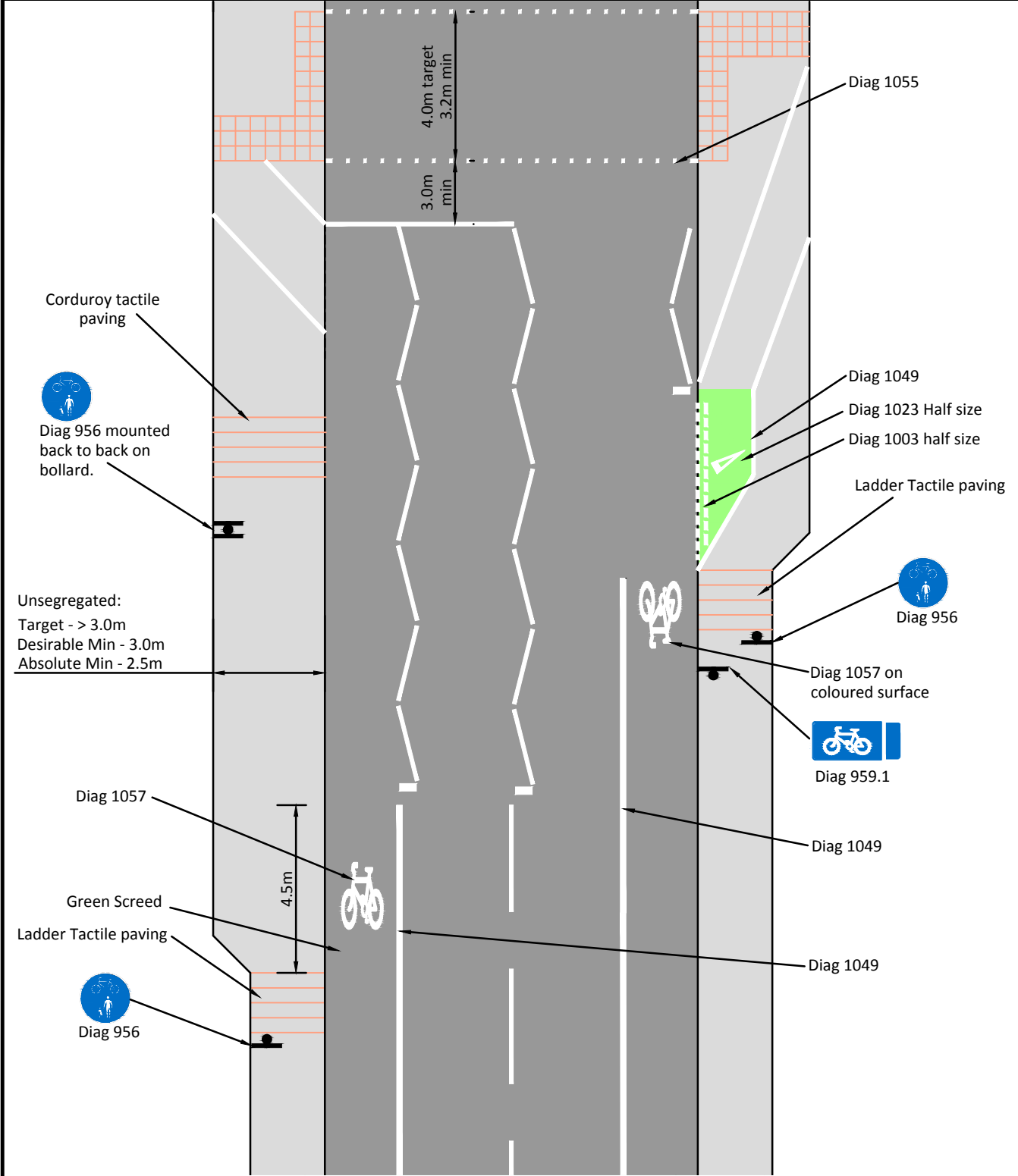Diag 1004

W

Typical Costs:

Work Zone Length	50m
Lower Cost Estimate	£10,000
Upper Cost Estimate	£50,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Lower cost value based on minimal engineering interventions
- Upper cost value based on maximum engineering interventions
- Cost estimate assume cycle facility provisions on both sides of the carriageway.

Notes:

Cycle Lane details shown on L-CL-GE-03

Drawing No:	J-CL-GE-02	Rev:
Lead Section:	JUNCTIONS	

BIRMINGHAM CYCLE REVOLUTION

Title:

ONE-WAY MANDATORY CYCLE LANE AT TOUCAN CROSSING

4.0m target
3.2m min

3.0m min

Diag 1055

Corduroy tactile paving

Diag 956 mounted back to back on bollard.

Diag 1049
Diag 1023 Half size
Diag 1003 half size

Ladder Tactile paving

Unsegregated:
Target - > 3.0m
Desirable Min - 3.0m
Absolute Min - 2.5m

Diag 956

Diag 1057 on coloured surface

Diag 959.1

Diag 1057

Diag 1049

4.5m

Green Screed

Ladder Tactile paving

Diag 1049

Diag 956

Diag 950

Diag 950

Diag 1004

Verge

Chicanes or an approach stagger should be provided to slow cyclists on approach to crossing.

Diag 956

Bollard

Diag 956

Diag 956

Diag 950

Diag 950

Typical Costs:

Work Zone Length	100m
Lower Cost Estimate	£6,000
Upper Cost Estimate	£8,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Cost estimate assume cycle facility provisions on both sides of the carriageway.
- Cost estimate excludes the construction of cycle track facilities.

Notes:

- Layout indicates options for urban areas (with footways) and rural areas (with verges).
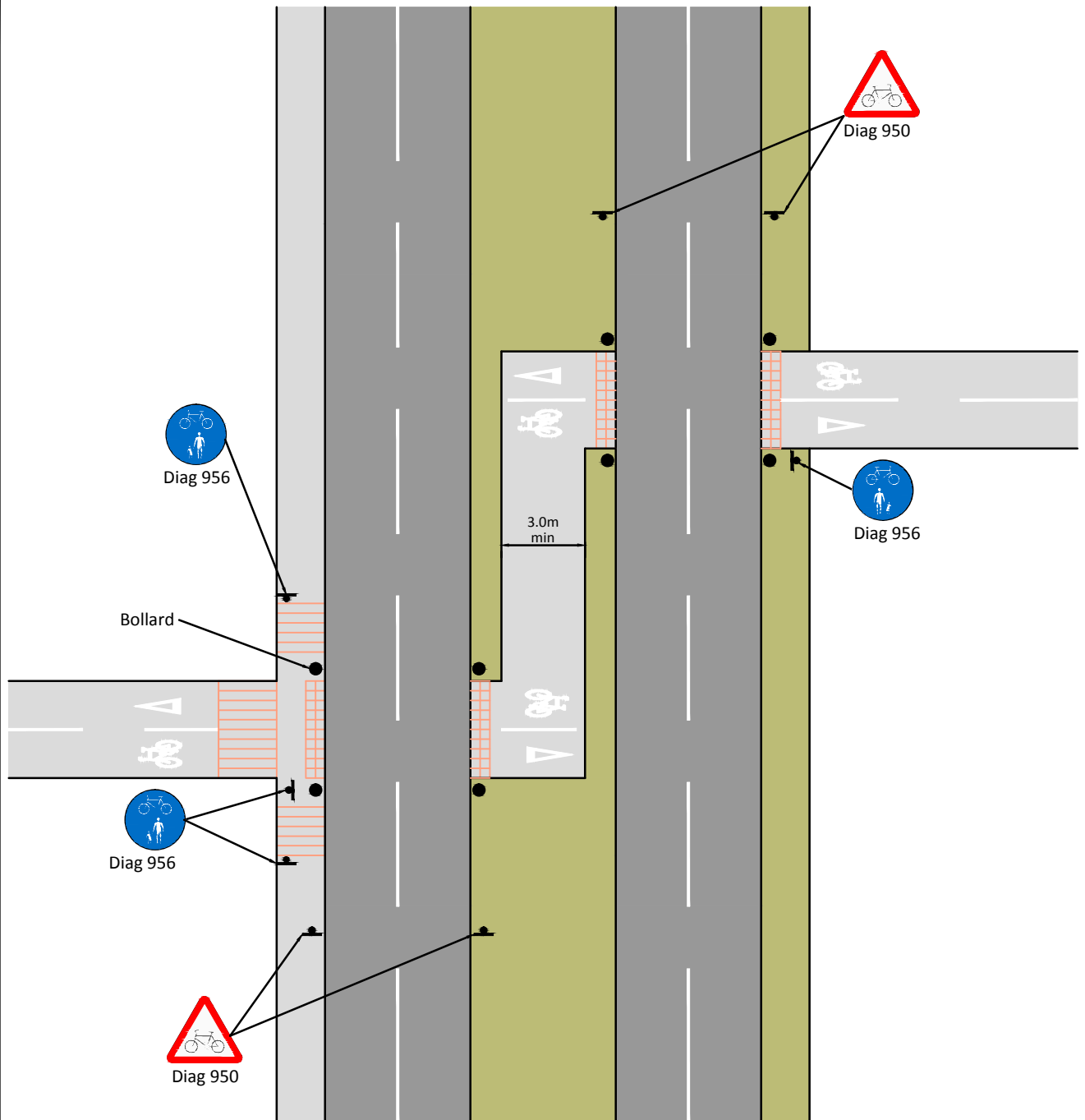
Drawing No:	C-CP-GE-01	Rev:
Lead Section:	CROSSINGS	

BIRMINGHAM CYCLE REVOLUTION	Title: **CYCLE CROSSING AT UNSIGNALISED DUAL CARRIAGEWAY**

Diag 950

Diag 956

Diag 956

3.0m min

Bollard

Diag 956

Diag 950

Typical Costs:

Work Zone Length	100m
Lower Cost Estimate	£6,000
Upper Cost Estimate	£8,000

- Cost estimates are indicative only and can vary significantly depending upon local site conditions.
- Cost estimate assume cycle facility provisions on both sides of the carriageway.
- Cost estimate excludes the construction of cycle track facilities.

Notes:

- Layout indicates options for urban areas (with footways) and rural areas (with verges).

Drawing No:	C-CP-GE-02	Rev:
Lead Section:	**CROSSINGS**	